## WITH DOG AND GUN.

Pleasures of Squirrel Hunting and Rabbit Shooting in October.

METHODS OF BAGGING THE GAME.

A Parody on the English Method of Hunting the Pox.

HOW THEY SHOOT RABBITS IN EGYPT

WRITTEN FOR THE DISPATCH.

With the falling of the leaves, the turn ; brown of the acorns and the hickory and niternuts, comes the season of squirrelunting. Walks through the woods are inulged in to see what the squirrel crop is looking like, and plans are laid for an early campaign against the feathery-tailed little

In this country there are about six varicties of the squirrel, of which every one knows the cunning little chipmunk, and the common red and gray squirrels. The flying squirrel is scarce in the Eastern States, but a triend of mine shot one in Broome county. two winters ago. The fox squirrel is also scarce, and is a fine, strong fellow, large as a cat, with an immense tail. In color they are dark gray alone, and a bright russet beneath. These and the grays are good eating. The best time to hunt squirrels is, un-doubtedly, early in the morning, or just before night falls, as they are stirring around more at these times than at any other. Enter the field quietly and walk slowly about in a zig-zag manner, as if undecide in what direction you are going. In this way the squirrels are puzzled as to your destination, and many an easy snap shot at them running to the trees may be got, when walking in a direct line would scare them out of range at once.

When they get in the tree remain perfect-



A Motionless Watch, ly still, scarcely even breathing. Be careul to assume a natural and easy position. for before you have been still a minute your nose will begin to itch, or your ear tickle, or your leg to be cramped. You will want to move in the worst way, simply because you have to keep still. Before very long you will hear a "chatter" "chatter," fol-lowed by a hoarse bark, and soon the curiosity of the little beast will cause him to peep around the trunk to find out what you are doing. Watch him, and soon he will come right out, either to go along the bough to jump to another tree, or to climb higher up the tree he is in.

WAITING FOR THE SQUIRREL.

If after waiting, he appears inclined to sulk, and will not come out, it is a good plan to fire at random into the tree with one barrel, and when he jumps, as he is pretty certain to do, catch him on the move with the contents of the other barrel. If there are two hunters, one should stand still and let his mate go slowly round the tree. This will give the one on guard a shot. In shooting in a patch of woods, a glance at the foot of an oak, or hickory nut tree will show on what they are "working," i. e. feeding, as there will be a number of shells and half chewed nuts at the foot, and where ever the "workings" are, in those trees will be found the most squirrels.

The peculiar drum or bark of a squirrel is very difficult to locate unless one is in good practice, for it seems to come from all directions. It will help locate the sound to stop the left ear with the finger. The two great principles of success in squirrel shooting are first, singleness and quickness of until intending to fire, and then with one motion, pull up the gun and shoot. If not a good shot, take an unloaded gun and practice getting the hang of it; walk around suddenly fix your eyes upon an object, pull the gun up quickly, with both eyes open, and it will be found that the muzzle will fairly cover the object.

Small as these animals are, it must be remembered that they have to be hard hit to kill them, and that a light charge is of no In a twelve-bore gun, at least earthly use. In a twelve-bore gun, at least 314 drams of black powder, or its equivalent



With the Second Barrel. in wood powder, should be used. I have

found 11% ounces of No. 4 chilled shot the Now, as to cooking a squirrel. Old hunters unhesitatingly declare them to be fine eating, but the average dweller in cities squir'ls" will declare them tough and good for nothing. So they for nothing. So they are if not properly cooked. The squirrel should be skinned, cleaned, and well washed, and then placed in a steamer for at least an hour, and a terward roasted or broiled in the ordinary way, when it will be found delicious. It, however, the hunter would like to try true squirrel-hunter's cooking, let him take his squirrel as soon as shot and bleed him by suing the throat. When ready for cook ing, let a large fire of small twigs be built, so as to get a lot of ashes. Singe all the hair off the body, open it, wash and clean it, then sew it or skewer up the stomach with thorns, and roll it in a big ball of earth paste, made of clay and water. Put this in the middle of the fire and rake the hot ashes over it. In an hour's time, rake it out, open it carefully, when the skin will peel off and the flesh will be a feast that is a

In England the boys employ a novel method which mables them to have quite a good deal of an without employing a gun. They take a stout stick of oak or ash about 1 inch in diameter and 18 inches in length. At one end they bore a fair sized hole running into the center of the stick to a depth of about 2 inches. A piece of stout, brown paper is then wetted and wrapped round and round the stick until a rude cup is formed, of which the stick with the hole in it forms the bottom. The stick is then ning into the center of the stick to a depth placed upright in the ground and six or eight inches of moltan lead are poured into the paper cup. The lead runs into the hole below, fills the cup, and hardens at once.

When cold the paper is stripped off, and a club with a heavy knobbed end is left which can be thrown with great accuracy and where.

Come to the closing-out sale of F. Schoenthal, 612 Penn avenue, and buy corsets, gloves and hosiery 25 per cent cheaper than elsewhere.

which is used with deadly effect on squirrels. The heavy end always brings it to the ground and the hole in the wood is for the purpose of fastening the lead to the

Now is approaching the time when a friend who owns a good hound dog is valued at a high percentage, for the days of rabbit hunting are at hand.

Almost every bunter knows the best place for rabbits in his section, and he should take his hound out now for an hour or so at a time and give him a few lessons. All that is required is a triangular collar of leather, having a swivel ring in one corner. Put this round the dog's neck and attach a very light, strong cord to the ring, the cord being



Breaking in a Hound, about 50 yards in length. Let him pick up the scent of a rabbit and follow it, the owner running with him to cheer him on. If not among thickly wooded patches, let him have all the rope. Then suddenly call on him to stop, and if he does not, jerk the rope smartly, and, gathering it up, make haste to him. Then start him again with encouraging words, and in half a dozen les-

sons the dog is well broken. Such a dog is worth his weight in gold for rabbiting.

As to hunting the rabbit, if the dog is a good one, few hints are necessary. Let the hunters spread out and not follow one another, as the rabbit is liable to turn at any minute. If hunting on a hillside, let someone go along the foot of it. When shooting don't get rattled, but take things quietly, and see that there is no one in the line of your fire, and that you don't shoot the

HARD TO KILL. Everyone knows the rabbit in some of its varieties, be it "cotion tail," "rock rabbit,"
"jack rabbit," "gray hedgerow or English
rabbit." These little animais are in every part of the globe. They are one of the most prolific animals in existence, beginning to breed at 6 months old, and giving birth several times a year to four to eight young ones. They are very hard to kill. The best charge to use is one ounce and a quarter of No. 6 shot and three drachms of powder, putting a good thick telt wad on the top of the shot to make it scatter well. A gun with short barrels, and not too heavily choked, is best.

On the French coast near Cape Griznez, is a long stretch of sand hills which some years ago swarmed with rabbits. The poschers there adopted a novel plan. They came in the night with a number of small nets, which they fixed by pegs to every hole they could find. These nets have a long pocket, so that the rabbit, rushing out of his nole is entangled in it and cannot get free. When all the nots were fixed they got a number of small crabs from the sea and taking a corresponding number of pieces of can-dle fixed them on the shells by slightly melting the wax, lit them and turned the crabs into the holes. Their instinct to find water lead them downward, and the light

burrows was captured In Egypt, especially in the neighborhood of Ismailia, rabbits are very plentiful, but they do not burrow into the ground to any extent. They are found lying in the flat, al-most deserted land, where patches of low bramble and tamarisk bushes are about the only things that grow. An Egyptian rabbit hunt is a social pienic. A number of people engage a professional guide, or hunter, who is mounted on a dromedary, and who finds the dogs. The party, mounted on small horses, accompany him. When the hunting ground



found the dogs are called back, and two of the riders gallop after the rabbit and shoot at it with a shotgun as it twists from patch to patch of cover. As each one is killed the line re-forms and the old sheik on the dromedary again takes command. There is a good deal of fun to be had, and a few tum-bles and rolls in the soft, warm sand; but it is not wise to offer any advice or suggestions to the old leader, who brooks no interfer-ence. Some wonderfully fine shooting is done, for a rabbit is a small mark to hit, and as enjoyment is generally the one thing sought, a small bag for a good deal of work does not matter.

A PARODY ON FOX HUNTING. Although the English method of fox hunting, or a very poor parody of it, has been introduced into this country, it will

never become popular with the masses. To gallop eight or ten miles after a scented skin, dragged along the ground, and to know that at just such a point or place, a tame for will be turned loose, cannot prove very attractive. The old-time method of shooting the fox will still hold the place of honor with our sportmen.

Of course, the first thing is to find the

runs or haunts of a fox, and the rest is easy, if a good day is at hand. Early morning is the best time, as then the lox will probably have fed and will be inclined to sleep. The scent, too, lies better on dewy, wet grass, than on dry ground, and the hound will find him better. There should be at least half a dozen sportsmen, so as to cover a good area of ground, as, if practicable, the fox will skulk for some distance before breaking cover. He will also break up hill in pre erence to down hill, and after being shot will run to the last gasp before he drops.
He has a habit, also, if cornered, of dropping down as if dead, and when the unwary hunter lowers his gun to pick him up the cunning beast will jump to his feet and get clear away before a shot can stop him. Some districts have curious methods of fox hunting. I remember some years ago at Binghamton, N. Y., a fox hunt took place in which a tame fox was led by a chain be-tween two men on a zigzag course for about five miles, describing an irregular circle ending by being led through a barrel firmly anchored to the ground. About 20 dogs were started on the scent, and the first dog through the barrel won the first prize, which,

I believe, amounted to about \$500.

In shooting a fox use No. 4 shot, as nothing smaller is of any use. If a breech-loading gun is used, it will be found a good plan to make a mixture of one part wax and seven parts mutton suet, and run it when melted in among the shot. This will increase the killing range of the gun fully 40 yards, and at a short range is better than a bullet.

Do you wish to be considered a crank? If very nervous you will be. Unjust, of course, but a fact. Hasten, therefore, to infuse vigor into your nervous system, and thus relieve its intranquility with Hostetter's Stomach Bitters, the pre-eminent nerve tonic and conqueror of dyspepsia, the parent of nervousness. Chills and fever, rheumatism, constipation, liver complaint and neuralgia are subjugated by the bitters.

If Not, Say Why Not

Sketches of the Dramatis Personse of the Chicago Tragedy.

FACTS ABOUT THE PRISONERS. Something About the Judge and Counsel

in the Case. ALEX. SULLIVAN'S TURBULENT LIFE

[WRITTEN FOR THE DISPATCH.] "It was a favorite maxim of Dr. Harrison's," says Fielding in "Amelia"— speaking of the benevolent divine and philosopher who represents the good principle in that once famous novel "that no man can descend below himself in doing any act which may contribute to protect an innocent person or bring a rogue to the gallows." It may be inferred from this that the moralists of the eighteenth century had no compunction; and had not began to grow sceptical on the doctrine of capital punishment. It will be a matter of congratulation if the talesmen selected in determining the guilt or innocence of the perpetrators of the atrocious murder of Dr. Cronin, which took place in Chicago on the night of the 4th of last May; will have their minds well imbued with the doctrine here laid down by this great novelist and

philosopher.

The defendant, Beggs, is a young lawyer, very little known outside of Clan-na-Gael circles, either professionally or socially. He came to Chicago from Ohio a few years ago, the negitienwhere he had served a term in the penit

Daniel Coughlin comes from Michigan, and has been a policeman at the Chicago avenue station. Patrick O'Sullivan was a small ice dealer, and lived close by the Carlson cottage, where the murder was committed. Burke was next to nobody, and never was heard of before he was indentified as the man with unshaven beard who drove the doctor with the famous "white horse" from his quiet home at the Conklin's to the den of his assassins, who were lying in wait for their helpless and unsuspecting

HORSE THIEF WOODRUFF.

Woodruff, who has been called the "horse thief," has not a very savory record, though born of respectable parents. His mother is present at the trial and the wife of a proper ous gentleman on the Pacific coast. The boy Kuntz was the youthful "pal" and dupe of "Dan" Coughlin. He, too, so it is claimed, has descended from good parents,

who still live in Germany.

In the present case by change of venue Judge McConnell became the presiding Judge. He is new on the bench, but by no means "iresh." He was elected last fall, defeating Thomas Cratty, a well-known Re-publican lawyer and politician. Judge McConvell has made a faithful and impartial Judge. His rulings for the most part have been good law, and now in particular he is manifesting the greatest caution to keep the record clear of error.

He sits erect and listens attentively to every word that is said. He hears patiently the wranglings of counsel, but steraly, though not severely, wields the wand of authority when they overreach the limits consigned them by law and courtesy. He takes notes himself of the answers of the veniremen and does not depend entirely on the court stenographer. He seems to feel seared the rabbits out into the nets, and so, in a short time, nearly every rabbit in the very keenly the responsibility that rests on his shoulders. He seldom laughs, sometimes his grave face smiles a little when some German talesman shows his strong antipathy to the Clan-na-Gael, and often at the shrewd, well-devised answers of busy business men to avoid jury service.

THE PUBLIC PROSECUTOR.

The State's Attorney, Judge Longenecker, has been connected with the State's Attor-ney's office almost since his advent to Chi-cago ten years ago. He was first appointed by the Hon. Luther Laffin Mills as one of his assistants. In 1884, when the office passed from the hands of the Republicans, and Judge Grinnell was elected, he was re-tained in the office, notwithstanding the fact of his being a staunch Republican, and a host of worthy Democrats lustily seeking the position. In the spring of 1888 he was selected by the County Republican Convention as a candidate for the office in spite of the desperate efforts of James Leddy, Esq., a prominent lawyer and politician; and at the election shortly afterward, held a good place on the ticket. While he cannot be said to be a man of great barristerial ability, he has inde atigable energy and ambition which very (requently compensates for what by nature is lacking in wit and intellectuality. This will undoubtedly prove to be his opportunity just as the conviction of the Anarchists served to make Mr. Grinnell famous throughout every State in the Union. He has associated with him in this case Luther Laffiu Mills and W. J. Hynes, both eminent lawyers and brilliant orators.

Mr. Mills is one of the most amiable, refined and intellectual of men, and is truly an ornament to the Chicago bar. He is perhaps a little below the average size. His face is free of beard, and I think the most handsome I ever saw on a man. It is an handsome I ever saw on a man. It is an intellectual beauty, however, not the least effeminate, but, on the coutrary, keenly strong and manly. His forehead is broad and high, without the slightest inclination to balaness. The whole head is regular and well proportioned, and one which would delight the physiognomist as well as being a model for the scuiptor. His hands are small, though not the least like a lady's. He is by no means humorous, but his sar-casm is deep and penetrating. His voice is strong and of the melodramatic kind. It has that peculiar melody that belongs to

THE TRUE ORATOR. He is not a hard student, but is called a "full" man—'urther too, he is what might be called a "ready" man, he can speak fluently on ordin ry subjects with very little preparation; this is an enviable quality in

Mr. Hypes is a very large man, about 6 feet in height and weighs over 200 pounds When a very young man he went to Con-gress from a Southern constituency, but soon abandoned politics to come to Chicago soon abandoned politics to come to Chicago and practice law. The firm now is Hynes & Dnnn, but his first genuine start was with Judge Moran. Mr. Hynes has an inexhaustible flow of rich, expressive diction, accompanied with a refined brogue and a grand declamation; what is more, he has very little of the ostentation of magnificence which so often distinguishes the candidate for penales supplants. The first case of imfor popular applause. The first case of importance he undertook was in the defense of Alexander Sullivan, indicted for the murder of Francis Hanford. At that time a warm, personal riendship existed between him and Mr. Sullivan. Now they are implaca-

ble enemies.

THE ARCH-CONSPIRATOR. Mr. Sullivan has a turbulent and eventful history. Like other antique heroes, there is a dispute about his birthplace. He has always claimed to have been born at the has always claimed to have been born at the city of Waterville, Me., but a couple of gentlemen friends of his own, and who know him intimately, assured me beyond question that he was born at Amheratburg. Ontario. His father was a British soldier. Ontario. His father was a British soldier, who arrived in Canada in the '40's. When very young Alec came to Detroit, and obtained a position in a small shoe store, and alterward became a clerk in a retail establishment of the same line. It was not a great while before he had a business of his own. His stock was burned, and the insurance

His stock was burned, and the insurance company suspected it was the work of an incendiary, and he was charged with arson. An investigation followed, but failed to fasten any guilt upon him. An alibi was proven by his fiancec, now his wire, and then Miss Buchanan, of that city. After the fire he moved to New Mexico, and took a position on a paper at Santa Fe. His industry and marked ability brought him to the front, and in the latter part of 1867 he was appointed postmaster of this ancient and historic city.

In 1868 he returned to Michigan and took the stump for General Grant, who was run-

the stump for General Grant, who was run-

ning for President for the first time. After the election the General appointed him Collector of Internal Revenue for New Mexico. He was removed. Mexico. He was removed as Collector in 1870 and then purchased the Sante Fe Gazette, a weekly Democratic paper, and ran it as the Sante Fe Post. It was strictly Republican in politics. In the spring of 1870, while editor of the Post, there appeared an article in its columns denouncing H. H. Heath, then Secretary for the Territory. This resulted in A SHOOTING AFFRAY,

although Sullivan emptied his single shooter at Heath and the latter returned the fire, yet neither men were hurt. It is said that the vituperative editorial was inspired by trouble over a woman. The newspaper was a failure and he lett for Washington owing \$5,000 or \$6,000. From Washington he drifted to New York and in 1873 came to Chicago. There he got a position as political reporter for the Chicago Times. The campaign of 1873 was a very bitter one for campaign of 1873 was a very bitter one for the city offices. It was the one never to be forgotten in Chicago, when Colvin was elected Mayor, and Dan O'Hara City Treasurer. When the campaign was over Sullivan claimed that although the Times was against Colvin and O'Hara he so studiously worded his articles and with that allow and words as to win them the such a play upon words as to win them the Irish vote. This is why, at the request of Dan O'Hara, he was made Secretary of the Board of Public Works, less than a year after his arrival in Chicago. Hesing's pa-per, the Staats Zeitung, was furious over his appointment and denounced every one having a hand in it, but Sullivan in partic-ular. Sullivan wrote Hesing a letter, tell-ing him if he did not retract he would shoot him at sight. Hesing made no retraction, nor did Sullivan do any shooting on this occasion. In 1874 Sullivan married Miss Margaret F. Buchanan, whom he had met while in Detroit, and a lady of remarkable ability.

THE HANFORD MURDER. This, the most fortunate event of his life, was soon followed by the most unfortunate— the murder of Mr. Hanford on the evening of August 6, 1876. Mr. Hanford had been Assistant Superintendent of Schools, but he was superseded by Duane Doty, of Detroit, and a great friend of the Sullivans. He felt his reduction in office very keenly, and attributed it all to Mr. and Mrs. Sullivan. Mr. Hanford, over his own name, wrote a letter to Alderman Van Osdel, Chairman of the Committee on Schools, objecting to the appointment. This communication, alone, was read by Van Osdel in the City Council. Asit happened, Sullivan was present in the lobby. The ob-Sullivan was present in the lobby. The ob-jectionable portion of the letter had reference to his wife. I will quote the words: "The instigator and engineer-in-chief of all deviltry connected with the legislation of the board is Mrs. Sullivan, wife of the Secretary of Public Works, Her in-Secretary of Public Works. Her influence with Colvin, the Mayor, was proven by getting Bailey dismissed and her husband appointed in his stead." Sullivan at once got a copy of the letter and started for home. In a short time he started from his residence, 378 Oak street, in a carriage with his wife, and Florence T. Sullivan at the started from his residence, 378 Oak street, in a carriage with his wife, and Florence T. Sullivan and Florence T. riage with his wife and Florence T. Sullivan, his brother, for Hanford's residence, a few squares west on the same street. Mrs. Han ord and her little children were sitting on the front steps, laughing and chatting with the husband and father as he watered the little grass plat in front of the house. The carriage stopped in front of the gate; Alexander Sullivan and his brother stepped out on the sidewalk. Mrs. Sullivan remained in the carriage. Sullivan walked up to Hanford, demanded a retraction of the letter and tollowed up the demand with a violent blow on the face. Hanford fell bleeding to the ground. When he regained his feet and struck back, Sullivan drew his revolver and fired. Hanford died 30 min-

Sullivan was tried twice for the murder, The first trial lasted nearly two weeks and the jury stood 11 for acquittal and one for conviction. He was desended by Leonard Swett, W. W. O'Brien and Thomas, now Judge, Moran. In the second trial the late Emery A. Storrs was retained and he was acquitted, the jury being out only a few minutes. T. J. FITZGEBALD.

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A Vigorous Present. In this age when so much interest is taken in athletics, dress re orm and physical culture, it is not amiss to suggest what stimu-lants should be used. Pure air and plenty of exercise will achieve good results, but only the perfection of health can be attained by the use of the best stimulants. Queen Victoria is a living example of this, having been presented with a barrel of Prince Regent whisky 50 years ago. This brand can be obtained only at the old reliable Half-Century Liquor House, 523 Liberty st., at the foot of Fifth avenue.

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Some Interesting Theories About the

COPPER AND NICKEL DEPOSITS.

Importance of Hardening and Tempering Iron and Steel.

Effects of Heredity.

SCIENTIFIC AND INDUSTRIAL NOTES

PREPARED FOR THE DISPATCH.1 Readers of THE DISPATCH who desire nformation on subjects relating to industrial development and progress in mechanical, civil and electrical engineering and the sciences can have their queries answered through this column.

During the discussion before the British Association on heredity, Mr. E. R. Poulton, E. R. S., defined what he meant by the term "acquired character," as that which was produced by the incidence of external forces upon the individual body, as opposed to the mere development of inherited tendencies in the individual. Mr. Poulton then proceeded to deal with the evidence which had been put forward in support of the hereditary transmission of acquired character. Such a proof would be afforded by the transmission of mutilations or any other characters undoubtedly impressed on the individual by external influences. Among the direct proofs, however, many supposed cases of transmitted mutilations had been refuted by Prof. Weisman, who had shown that this evidence must always be received with the gravest suspicion. He could not explain variation without the transmission of the effect of environment on the ancestors. But the effect of environ-

ment on the germ-cells through the parental cells, would not imply such transmission, unless the offspring showed the same effects as those wrought on the parents, and this had never been proved. The facts known about identical twins were quoted by Gallon and Weisman as showing that the peculiarities of the individual were almost exclusively predetermined in the ovum. Prot. Windle had recently argued that almost all examples of monstrosity were due to peculiarities of the ovum, and not to external forces. The supposed hereditary effects of use and disuse were unsupported by any proof that the modifications of organs affected by use or disuse had been more complete or more rapid than that of organs not so affected. An apparent difficulty in the region of instinct, suggested by Prof. Romanes, did not appear to support his conclusions. He in-stanced the instinct of certain wasps to sting the nerve centers of their prey, and argued that this was at first an intellectual action, the wasp having watched the effect of its sting. But in this and other parallel cases the successful effect was felt by the offspring of the wasp rather than the vasp itself. The case was, therefore, better explained by the operation of natural selecion, and the operation was probably nonintelligent from the first. Leaves as Photographic Negatives.

A remarkable discovery has just been brought before the British Association by Walter Gardiner in his paper on "A New Method of Printing Photographic Negatives, Employing Living Leaves in Place of Sensitive Paper," Mr. Gardiner stated that whatever is the exact chemical nature of the process, this, at least, is clear, that the first visible product of assimilatory activity is starch, which, moreover, is found in the chlorophyll grains. The presence of

this starch can be made manifest by treating a decolorized leaf with a water solution of rodine. This formation of starch takes place only under the influence of light; the radiant energy of the sun providing the chemical charge, and building proteid from the carbonic acid the air which is taken up the leaves and the salts and water absor by the roots. If a plant (and preferably a plant with thin leaves) be placed in the dark over night, and then brought out into the light next morning, the desired leaves being covered with a sharp and well developed negative, starch is formed when light is transmitted, and in greatest quan-tity in the brightest areas. Thus a positive in starch is produced which can be de-veloped by suitable treatment with iodine. Mr. Gardiner showed that it might be pos-sible to obtain a permanent print by suit-able washing and treatment with a soluble silver salt, silver iodide being formed. He regards this discovery as a most striking illustration of the way in which plants are working for themselves, and so for all living things, and points out that the extraordinary

manner in which the green parts of plants, so to speak, catch the radiant energy of the sun, and employ it for analytical and synthetical chemical processes, may be easily and clearly demonstrated. Hardening and Tempering Steel. Prof. Roberts-Austen, of the Royal Mint, concluded a recent lecture at Newcastle-on-Tyne, England, by pointing to the importance of hardening and tempering in relation to all kinds of steel. In the early days, when steel was substituted for iron, it was

viewed with suspicion, mainly because the fact that iron could exist in two distinct molecular states was ignored. He showed that the material of which the Forth bridge is made owes its substantiality to the fact that, while being very strong, it is very so t and ductile, and will not harden energetically. The enormous importance of the substitution of steel for Iron was shown by figures supplied by Mr. Webb, of Crewe, who stated that on the entire system of the London and Northwestern Railway 18 tons of don and Northwestern Railway 18 tons of steel disappeared daily by oxidation and wear. The importance of oil hardening in relation to gun steel was shown by the fact that at the St. Chamond Works, on the Loire, they had a tank containing 44,000 gallous of oil, into which the hot gun steel was plunged. With regard to highly carbonized steels, it was shown that a properly tempered die would strike 40,000 coins, while one which had been over-hardened would

one which had be over-hardened would probably tracture with the first coin it attempted to strike. In conclusion Prot. Austen said it was strange that so few researches had been devoted to the relations of carbon and iron and so many to organic chemistry. This arose, he thought, from the belief of chemists and physicists that opera-tions which involved the use of high temtions which involved the use of high tem-perature were necessarily inaccurate. He considered, however, that the "empire over matter," which is the object of all research, could as surely be gained in the field of metallurgy as in any other.

Copper and Nickel Deposits. Among the papers read before the Ameri-

can Institute of Mining Engineers at Ottawa was one by Dr. E. D. Peters, Jr., on the mines of the Canadian Copper Company at Sudbury. These ore deposits possess a peculiar interest for a variety of reasons: In the first place they are deep within the borders of the Huronian rocks, and are consequently among the oldest deposits known, unless, indeed, the ores were deposited at a drink is F. & V.'s Pilsner beer.

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Cabinet photos, \$1 per doz. Lies' Popular Gallery, 10 and 12 Sixth st. Trsu

Fine watch repairing, at Hauch's, No. 205 Flith ave.

The pleasantest and most wholesome drink is F. & V.'s Pilsner beer.

Wainweight's beer gives genuine satisfaction always. All dealers keep it, TuSu

dirink is F. & V.'s Pilsner beer.

Mainweight's beer gives genuine satisfaction always. All dealers keep it, TuSu

Challest prices paid for ladies' or gents' cast-off clothing at De Haan's Big unless, indeed, the ores were deposited at a much later period than the country rock. Again, they carry nickel in unusual proportions, and lastly, they are unique in containing a small amount of platinum, although arsenic is not present. The rocks of this arsenic is not present. The rocks of this arsenic is not present. The rocks of this whole country may be said to be standing on end. A general feature is that the ore whole country may be said to be standing on end. A general feature is that the ore bodies are in close proximity to extensive dikes or tilted beds of diorite. The ore usually occurs at the point of contact between the diorite and graywicke. The matter from these mines contains an average of 27 per cent copper and 15 to 18 per cent nickel. It is shipped to Swanses to be refined. The world's production of nickel has been less that the oresets are a much later contains an average of 27 per cent copper and 15 to 18 per cent nickel. The train started ten minutes earlier than the time announced for its departure, and it was owing to this fact that its was owing to this fact that the process of this two starts the total race of the grade. The train started ten minutes earlier than the time announced for its departure, and it was owing to this fact that the price conspirators was frustrated.

—Emsley Yright, the aged farmer who shot a tramp near fudianapolis come days age, has been arrested

than 1,000 tons, mostly from New Catedonia, which cannot afford to produce at present prices. The yield of the Sudbury mines is 2,000 to 3,000 tons, and can be easily worked up to 5,000 or 6,000 tons.

New Treatment of Coal.

An invention which is likely to be of considerable importance, from a sanitary point of view, has been tested in England with satisfactory results. It consists in the ap-plication of a preparation to coal, by which the constituents are said to be concentrated and hardened. In practice the coal is steeped in the solution, and the fuel can be used either wet or dry. Two large fires were shown at the demonstration, one being made with coal in its normal condition and made with coal in its normal condition and the other with the treated coal. The difference was manifest, the chemicalized coal giving off a very trifling amount of smoke, while a good biszing fire was maintained. The treatment of the coal is said to cost 12 cents per ton, every expense included. It is proposed that the coal shall be treated in coal merchants' yards, ready for delivery to the consumers.

Elastic Tile. A useful building invention is the elastic tile of Sir E. J. Hartland, of Belfast, which is made by mixing a mixture of India rubber, or India rubber compound, sulphur and pigment, to heat in a mold, in the ordinary way of making vulcanized India rubber, or the mixture can be vulcanized in sheets, and the sheets cut into tiles. These can then be sffixed to the floor or These can then be sfixed to the moor or other surface to be covered in various ways, but the inventor prefers a cement composed of two parts of gutta perchs, one part of resin and one part of Stockholm tar. Being soft and elastic, these tiles afford a very firm and comfortable foothold, and they are particularly useful on board ships, and being investigate to the state of the sta impervious to wet are always clean.

Saccharin Inimical to Beet.

It is somewhat singular that beet, which, during the last few years, has virtually destroyed the sugar cane industry in the West Indies, should now in its turn be threatened with destruction by the chemical product saccharin. In Germany, it is stated, so much saccharin has already been made as to render 5,000 tons of beet sugar superfluous. It is principally employed in the prepara-tion of fruits and the production of sweet iquors. It has, however, been condemned by eminent medical authorities as directly prejudicial to health, and France, Italy and Portugal are already contemplating imposing a tax upon it.

Native Zinc. In the laboratory of the State Mining Bureau of San Francisco an extremely interesting discovery was recently made. In working a specimen of sulphide or blonde ore sent from a mine in Shasta county, Cal., a small piece of native metallic sine was secured. This is the first piece of the character named ever known to have been se-cured in this country. Late works on metallurgy note the existence in the mines of Victoria, Australia, of the only metallic zinc known. The Mining Bureau proposes, if possible, to secure other specimens from if possible, to secure other specime Shasta county.

Fireproof Wood. The recent discovery by a New England chemist of a cheap method of dissolving since by combining it with hydrogen is regarded as a most valuable one. The product is a solution called zinc water, and has the property of making wood to which it has been applied absolutely fireproof, and at a very low cost. This discovery is likely to revolu-

LATE NEWS IN BRIEF.

tionize fire insurance, as well as mensely decrease the loss by fire.

-The Czar and Czarina arrived at Gatschins yesterday morning.

The strike of coal miners at Iens, Fra has been settled, the masters conceding the mands of the men. -Mr. Gladstone writes that if the country wishes it, the Irish representation at Wastmin-—Henry Taylor was yesterday convicted in Whitefield county, Ga., of the murder of State Senator Samuel Field, and sentenced to life

—James H. Jacobs, the Lancaster county murderer, and George Clark, the Greene county murderer, both sentenced to die Octo-ber 23, have been respited until December 19. The President yesterday appointed the following postmasters; John H. Derdon, at Aurora-Ind., vice F. H. Gibon, removed, and W. B. Ellis, at Washington, Ind., vice Stephen Beld-

ind, resigned. The report that Moussa Bey, who is charged with brigandage and outrage in Armenia, had been pardoned by the Porte, is denied by the Turkish authorities. They say that his trial is

—James M. Johnson, agent of the Michigan Mutual Life Insurance Company of Detroit, at Minneapolis, was arrested in Chicago yester-day on a charge of embezzlement. The amount of defalcation is \$1,377.

-The Czarowitz sailed yesterday on the Russian crusser Admiral Korniloff, from Brin-diai for Athens, where he will attend the mar-riage of the Crown Prince of Greece and Prin-cess Sophie of Prassia. —Charles Harris, a negro convict, was shot and killed while resisting arrest at Lumber City, Ga., Thursday afternoon. That night the jail was burned, and it is believed negroes fired it to avenge the death of Harris. There is, however, no danger of trouble.

The President yesterday appointed Captain Francis M. Rumsay Chief of the Bureau of Navigation of the Navy Department, vice Captain John G. Walker, and George E. Neil, of Missouri, to be United States District Attorney for the Western Division of Missouri.

The coroner's jury in the case of Catherine H. MacRae, wife of Rev. Donald MacRae, who died at St. John'a, N. B., from eating poisoned candy received through the postoffice, has returned a werdiet of willful murder against William J. McDonald, who is accused of having rejected the candy poisoned the candy.

—Mrs. Samuel Trice, of Fowling Creek, Caroline county, Md., was burned or suffocated to death yesterday. She was 66 years old and helpless from paralysis. Being left alone for a short time, the bed clothing in which she was wrapped, took fire. When the fire was extinguished she was found to be dead.

tinguished she was found to be dead.

The French Cabinet has expelled M.
Laisant the Boulangist deputy, from his position as an officer in the territorial army. This action is due to a statement made in a speech by M. Laisant during the recent electoral campaign that he would not take the field for France under the present Government.

At Pine Spring, Rowen county, Ky., Frank Toiliver yesterday married Miss Grace Martin. The bride and the bridegroom respectively are sister and brother to the leaders of the opposing factions that for several years have been industrious in murdering each other in that county. The wedding seems to be a trial of peace.

Oscar Matto. John Bullock, Albert Norton Oscar Mato, John Bullock, Albert Norton and James Manshan were arrested yesterday at Sullivan, Ind., for the murder of George Farner, aged 75, who kept a little restaurant at Shelburn. The old man was found dead in front of his restaurant, Sunday morning, and it is supposed he was killed by some rowdies in a fight.

The Saginaw, Tuscaloosa and Huron Railroad Company has commenced suit in the Circuit Court at East Saginaw against Charles D. Rice, late auditor of that road, to recover \$20,000. Rice was recently dismissed from the road, having confessed he was short \$5,000. It is now hinted the shortage will exceed the amount first stated.

Dr. Hamilton, Surgeon General of the Marine Hospital Service, is in receipt of a letter from Prof. Rudolnb Virchow, at Berlin, saying that the organization committee of the International Medical Congress, has been constituted by the election of himself President, and Dr. Lassar, Secretary General. The congress will be held in 1880.

The Official Messenger, of St. Petersburg, states that a plan had been made to wreck, near Jassy, Roumania, the train on which ex-Queen Natalite, of Servia, recently traveled to Belgrade. The train started ten minutes earlier than the time announced for its departure, and it was owing to this fact that the plan of the conspirators was frustrated.

Meiningen, the husband of Princess Charlotte, left Berlin restorday for Venice, on their way to Athens, where Princess Sophie is to be marned on the 27th inst, to the Crown Prince of Greece. A crowd had gathered at the railway station and warmly cheered the ex-empress and her daughters.

The Senior class of Harvard College has elected Clement Garrett Morgan, a colored man, as class orator. The election was hotly contested, but Morgan received a substantial majority, about 270 men voting. He entered college with little means and during his freshman year worked in odd hours in a barber shop. Since then his rank as a student has brought him beneficiary money. Last year, as a competitor for the Boylston prizes, he carried his audience by storm and won first place.

—An insumense prairie fire has been rawing -An immense prairie fire has been ragin ince yesterday morning within a few miles o

—An immense prairie fire has been raging since yesterday morning within a few miles of Bismarck, N. D. Efforts of farmers to check the huge confagration have been unavailing, and a large number of farms have already been destroyed. A strong wind has been helping the fire along. The village of Menokec, it miles below Bls marck, con-isting of 16 blocks, is entirely swent away and the inhabitants are reported destitute. The wind is rapidly carrying the fire to Bismarck and the city is enveloped in smoke and flying cinders. The residents apprehend great danger.

prehend great danger.

—The dry weather which has prevailed in Central and Southern Indiana for the past two months has caused great inconvenience to the farmers, and the sowing of wheat has been delayed in toany places, owing to the hardness of the ground. Wheat sowed a month ago has not sprouted, and whole fields are believed to have been burned out by the sun. The corn crop is largely above the average, both in quantity and quality, and the buckwheat and fiasteed crops are reported much better than the average. A larger crop of wheat than usual has been sown, but will be destroyed unless rains soon fall.

—The Loren Surreyme Court has randered an

unless rains soon fall.

The Iowa Supreme Court has rendered an important decision here bearing upon the enforcement of the prohibitory liquor law. An information had been filed before a justice alleging that certain liquors owned by toon Creeden were kept in the Rock Island freight depot in Des Moines intended for sale in violation of the law. The liquors were ordered destroyed. The defendants appealed, claiming that the liquors were in the custody of the railroad company as a common carrier and that the matter became one of inter-State commerce, over which the State courts had no juri-diction. The decision of the Supreme Court finds that Creeden was a persistent violator of the law and had been receiving liquor in this way for some time, using the freight office as a storage room to keep the packages till needed. The Court holds that the inter-State commerce feature of the transaction ended when the liquors had reached the freight house; that the railroad in keeping them for several days was holding them not as a carrier, but as a warehouseman.

All admit the remarkable qualities of the genuine imported Carlsbad Sprudel Salt as an aperient, laxative and diuretic. The great fame of the wonderful Carlsbad Spring is due to real worth. Be sure and secure only the genuine.

Tailor-made, perfect fitting plush jacke cloth jackets, beaver jackets, broadclo wraps. Connemaras, Newmarkets, etc., largest variety and prices that canno undersold. Come to-day.

Greezinger's Display at the Exposition Was slightly soiled by dust. All of it will be offered at hal! price next Wednesday morning, at 627 and 629 Penn avenue. Corsets, Gloves and Hoslery.

Be sure and get our closing-out prices be-fore buying elsewhere. We can save you money. F. SCHOENTHAL,

Have Your Old Furniture Re-upholstered in latest goods by Haugh & Keenan, 33 and 34 Water st. 'Phone 1626. CABINET photos, \$1 per dox. Lies' Popular Gallery, 10 and 12 Sixth st. Trsu

FINE watch repairing, at Hauch's, No. 295 Fifth ave.

THE pleasantest and most wholeso drink is F. & V.'s Pilsner beer. WAINWRIGHT'S beer gives genuine sat-isfaction always. All dealers keep it. TuSu se25-50

Coughing

I S Nature's effort to expel for stances from the bronchial tently, this causes inf and the need of an anodyne. No other expectorant or anodyne is equal to Ayer's Cherry Pectoral. It assists Nature in ejecting the mueus, allays irritation, induces repose, and is the most popular of all cough cures.

most popular of all cough cures.

"Of the many preparations before the public for the cure of colds, conghs, bronchitis, and kindred diseases, there is none, within the range of my experience, so reliable as Ayer's Cherry Pectoral. For years I was subject to colds, followed by terrible coughs. About four years ago, when so afflicted, I was advised to try Ayer's Cherry Pectoral and to lay all other remedies aside. I did so, and within a week was well of my cold and cough. Since then I have always kept this preparation in the house, and feel comparatively secure."

—Mrs. L. L. Brown, Denmark, Miss.

"A few years ago I took a severe cold." "A few years ago I took a severe cold which affected my lungs. I had a terrible cough, and passed night after night without sleep. The doctors gave me up. I tried Ayer's Cherry Pectoral, which relieved my lungs, induced sleep, and afforded the rest necessary for the recovery of my strength. By the con-

recovery of my strength. B tinual use of the Pectoral, a cure was effected."—Horace F Rockingham, Vt.

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ine of Chinese herb and vege which, instead of simply relievi-strike at the VERY ROOT OF I but a small sum for his remedies, which, though gentle and harmiess to take, are certain and unerring in their effects. They SPEEDILY CURE all blood, nervous and chronic diseases. Young, middle-aged or old men, suffering, quickly restored to PERFECT PHYSICAL, HEALTH. GUN WALE AFRIEND TO THE AFFLICTED. If you cannot call, write him, in perfect confidence. Send for history of his life, and his circular on Cancer, Tumers, Tape Worm, Rheumatism, Catarra, Formale Westeness, or Piles, Inclose to stamps for reply. Office hours, 2 A. M. to El M.: 1 to 5 and 7 to 7 R. M.

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